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### Verrucous carcinoma of the female breast

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is released in increased amounts by osteoclasts that are stimulated by factors such as PTH-rP in bone cultures.<sup>10</sup>

Despite bone marrow involvement and anaemia, the peripheral blood picture on presentation was relatively normal and a trephine bone marrow biopsy was required to establish the diagnosis. In hypercalcaemia of undetermined origin, haematological malignancies should be considered a possibility. The significant systemic effects may be due to production of a number of local and systemically active factors. This case casts a new light on the understanding of the complex pathophysiology that may arise in hypercalcaemia of malignancy.

### Learning points

- in hypercalcaemia of undetermined origin, haematological malignancies should be considered a possibility and a bone marrow aspirate/trephine performed
- in B-cell lymphoma the tumour cell–bone micro-environment can result in the production of factors which can stimulate both osteoclasts and osteoblasts
- there is increasing evidence that the systemic synergism between PTH-rP, TNF and/or IL-6 results in significant osteoclast stimulation which may be responsible for hypercalcaemia of malignancy

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## Verrucous carcinoma of the female breast

N A Munro, C Smith, A D Purushotham

### Summary

**Verrucous carcinoma is a rare skin malignancy of squamous cell origin. It is characterised by negligible cellular atypia and a low mitotic rate. These are reflected in slow locally invasive behaviour and very infrequent metastatic spread. The tumour is also recognised in oral and anogenital sites. Cutaneous lesions present most commonly on the sole of the foot. We report a unique case occurring in the female breast.**

**Keywords:** verrucous carcinoma; breast

A 75-year-old woman presented at the breast clinic with an alleged one-year history of an enlarging lesion of her right breast. On examination, the lateral aspect of the breast was replaced by an exophytic and superficially

necrotic lesion measuring 120 × 110 mm (figure 1). This was thought clinically to represent advanced breast carcinoma. Two incisional biopsies were taken on separate occasions under local anaesthesia, however, and the lesion was pathologically reported as a benign viral wart. The patient proceeded to wide local excision of the lesion, and frozen section examination at the time of operation was reported as a well-differentiated benign squamous lesion. Examination of paraffin sections from this specimen (figure 2) revealed an acanthotic and hyperkeratotic lesion with both endophytic and exophytic components. There was minimal nuclear pleomorphism and mitoses were confined to the basal layers. The appearances were typical of a verrucous carcinoma, and immunocytochemistry was positive for human papilloma virus. Local excision of the lesion was complete, and the patient made a good clinical recovery. She remains well on follow-up.

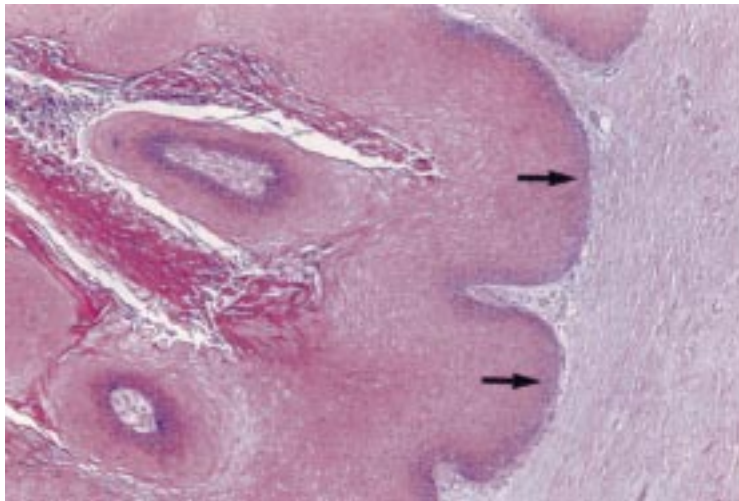
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**Figure 1** Pre-operative photograph showing exophytic lesion of right breast (reproduced with the patient's permission)



**Figure 2** Photomicrograph of lesion showing well differentiated squamous architecture and deep pushing margin indicated by arrows (Haematoxylin and eosin stain, original magnification  $\times 10$ )

### Learning points

- verrucous carcinoma is a discrete condition with behaviour intermediate between squamous papilloma and squamous cell carcinoma
- although verrucous carcinoma usually affects the oral cavity, anogenital area or foot, consideration must be given to the diagnosis in other anatomical areas
- diagnosis can be difficult even on histological examination
- histological confirmation of breast carcinoma, even in apparently clear-cut cases, is essential to prevent unnecessarily mutilating surgery

### Discussion

Verrucous carcinoma is a well known but rare tumour which is distinct from both squamous papilloma and squamous cell carcinoma, and intermediate between them in its behaviour.<sup>1</sup> Human papilloma virus infection has been implicated in the aetiology of both verrucous carcinoma and the viral wart, with subtypes 11 and 18 having been previously demonstrated in cutaneous lesions.<sup>2</sup> Verrucous carcinoma is difficult to diagnose on biopsy, due to the lack of cytological features of malignancy. Microscopic features are notoriously similar to those of a viral wart<sup>3</sup> but, in a large biopsy or excisional specimen, it can be differentiated by its characteristic 'pushing' endophytic invasive margin (figure 2). To our knowledge, this is the first published case of verrucous carcinoma of the female breast. In view of its good prognosis, and the difficulty in reaching histological diagnosis on small biopsy samples, knowledge of this condition is useful in order to facilitate appropriate management.

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